

NAME \_\_\_\_\_

SEMESTER \_\_\_\_\_ YEAR \_\_\_\_\_

**CERRITOS COLLEGE  
AUTOMOTIVE TECHNOLOGY  
HEATING AND AIR CONDITIONING  
TASK LIST**

	<b>VII. HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) A. GENERAL</b>	<b>LIVE WORK</b>	<b>DATE COMPLETED</b>	<b>INSTRUCTOR</b>
1.	Research vehicle service information, including refrigerant/oil/fluid type, vehicle service history, service precautions, technical service bulletins, and recalls including xEVs and vehicles equipped with advanced driver assistance systems (ADAS). P-1			
2.	Identify heating, ventilation, and air conditioning (HVAC) components and configurations. P-1			
3.	Retrieve and record on-board diagnostics, DTCs, monitor status, and freeze frame data; clear codes and data when directed. P-1			
4.	Perform A/C system performance test as recommended by manufacturer; interpret results; determine needed action. P-2			
5.	Identify abnormal operating noises in the A/C system; determine needed action. P-2			
6.	Leak test A/C system; determine needed action. P-1			
7.	Verify and interpret heating and air conditioning concerns; determine needed action. P-1			
8.	Place a vehicle in service mode as needed before servicing and diagnosing the HVAC system. P-1			
9.	Identify refrigerant type; test for sealant/contaminant; select and connect proper gauge set/test equipment; record temperature and pressure readings. P-1			
10.	Inspect condition/quantity of refrigerant oil removed from A/C system; determine needed action. P-1			
11.	Determine recommended oil and oil capacity for system application and component(s) replacement. P-1			

<b>VII. HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) B. REFRIGERATION SYSTEM COMPONENTS</b>		<b>LIVE WORK</b>	<b>DATE COMPLETED</b>	<b>INSTRUCTOR</b>
1.	Inspect, remove, and/or replace A/C compressor drive belts, pulleys, tensioners; determine needed action. P-1			
2.	Inspect for proper A/C condenser airflow; determine needed action. P-1			
3.	Inspect evaporator housing condensation drain; determine needed action. P-1			
4.	Inspect, test, and/or service A/C compressor clutch components and/or assembly; determine needed action. P-2			
5.	Remove, inspect, reinstall, and/or replace A/C compressor and mountings; determine recommended oil type and quantity. P-1			
6.	Remove and inspect A/C system hoses, lines, fittings, O-rings, seals, and service valves; perform needed action. P-2			
7.	Remove, inspect, and replace receiver/drier, accumulator/drier or desiccant; determine recommended oil type and quantity. P-2			
8.	Remove, inspect, and install expansion valve or orifice (expansion) tube. P-1			
9.	Diagnose A/C system conditions that cause the protection devices (pressure, thermal, and/or control module) to interrupt system operation; determine needed action. P-1			
10.	Determine procedure to remove and reinstall evaporator; determine required oil type and quantity. P-2			
11.	Remove, inspect, reinstall, and/or replace condenser; determine required oil type and quantity. P-2			
<b>VII. HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) C. HEATING, VENTILATION, AND ENGINE COOLING SYSTEMS</b>		<b>LIVE WORK</b>	<b>DATE COMPLETED</b>	<b>INSTRUCTOR</b>
1.	Inspect engine cooling and heater systems hoses and pipes; determine needed action. P-1			
2.	Inspect and test heater control valve(s); perform needed action. P-2			
3.	Diagnose temperature control problems in the HVAC system related to the engine cooling system, including electric heating; determine needed action. P-2			
4.	Determine procedure to remove, inspect, reinstall, and/or replace heater core; properly refill system. P-2			

<b>VII. HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) D. OPERATING SYSTEMS AND RELATED CONTROLS</b>		<b>LIVE WORK</b>	<b>DATE COMPLETED</b>	<b>INSTRUCTOR</b>
1.	Inspect HVAC system ducts, doors, hoses, cabin filters, and outlets; determine needed action. P-1			
2.	Identify the source of HVAC system odors. P-2			
3.	Inspect and test HVAC system blower motors, resistors, switches, relays, wiring, and protection devices; determine needed action. P-1			
4.	Diagnose A/C compressor control systems; determine needed action. P-1			
5.	Diagnose malfunctions in the vacuum, mechanical, and/or electrical components and controls of the HVAC system; determine needed action. P-2			
6.	Inspect, test, remove and/or replace HVAC system control panel; determine needed action. P-2			
7.	Check operation of automatic HVAC control systems; determine needed action. P-2			
<b>VII. HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) E. REFRIGERANT RECOVERY, RECYCLING, AND HANDLING</b>		<b>LIVE WORK</b>	<b>DATE COMPLETED</b>	<b>INSTRUCTOR</b>
1.	Demonstrate knowledge of the requirement to recover, recycle, and handle refrigerants using proper equipment and procedures. P-1			
2.	Use and maintain refrigerant handling equipment according to equipment manufacturer's standards. P-1			
3.	Identify A/C system refrigerant; test for sealants/contaminants; recover, evacuate, and charge A/C system; add refrigerant oil as required. P-1			
4.	Recycle, label, and store refrigerant. P-1			